Amendments to the Specification

Please amend the paragraph beginning on page 1, line 8 as follows:

This application claims the benefit of ~~to~~ Provisional Appl. No. 60/171,312, filed December 21, 1999, which is incorporated herein by reference; and is a continuation-in-part (CIP) of International Appl. No. PCT/US00/17842, filed June 28, 2000, which published in English under PCT Article 21(2); and is a CIP of Appl. No. 09/017,743, filed February 3, 1998; and is a CIP of Appl. No. 09/017,524, filed February 3, 1998; and is a CIP of Appl. No. 08/454,033, filed May 26, 1995; and is a CIP of Appl. No. 08/347,610, filed December 1, 1994; and is a CIP of Appl. No. 08/344,824, filed November 23, 1994; and is a CIP of Appl. No. 08/205,713, filed March 4, 1994; and is a CIP of Appl. No. 08/349,177, filed December 2, 1994; said PCT/US00/17842 claims the benefit of ~~to~~ Provisional Application No. 60/141,422, filed June 29, 1999; said Appl. No. 09/017,743 is a CIP of Appl. No. 08/753,615, filed November 27, 1996, which is a CIP of Appl. No. 08/590,298, filed January 23, 1996, abandoned; said Appl. No. 09/017,524 is a CIP of Appl. No. 08/589,107, filed January 23, 1996, abandoned; said Appl. No. 08/347,610 is a CIP of Appl. No. 08/159,339, filed November 29, 1993, U.S. Patent No. 6,037,135, which is a CIP of Appl. No. 08/103,396, filed August 6, 1993, abandoned, which is a CIP of Appl. No. 08/027,746, filed March 5, 1993, abandoned, which is a CIP of Appl. No. 07/926,666, filed August 8, 1992, abandoned; said Appl. No. 08/344,824 is a CIP of Appl. No. 08/278,634, filed July 21, 1994, abandoned; said Appl. No. 08/205,713 is a CIP of Appl. No. 08/159,184, filed November 29, 1993, abandoned, which is a CIP of Appl. No. 08/073,205, filed June 4, 1993, abandoned, which is a CIP of Appl. No. 08/027,146, filed March 5, 1993, abandoned; said Appl. No. 08/349,177 is a CIP of Appl. No. 08/159,184, filed November 29, 1993, abandoned, which is a CIP of Appl. No. 08/073,205, filed June 4, 1993, abandoned, which is a CIP of Appl. No. 08/027,146, filed March 5, 1993, abandoned.

Please amend the paragraph beginning on page 9, line 33 as follows:

The peptide epitopes and corresponding nucleic acid compositions of the present invention are useful for stimulating an immune response to a TAA by stimulating the production of CTL or HTL responses. The peptide epitopes, which are derived directly or indirectly from native TAA protein amino acid sequences, are able to bind to HLA molecules and stimulate an immune response to the TAA. The complete sequence of the TAA proteins to be analyzed can be obtained from ~~GenBank~~ GENBANK®. Peptide epitopes and analogs thereof can also be readily determined from sequence information that may subsequently be discovered for heretofore unknown variants of particular TAAs, as will be clear from the disclosure provided below.

Please amend the paragraph beginning on page 47, line 8 as follows:

In some embodiments, it may be desirable to combine the class I peptide components with components that induce or facilitate neutralizing antibody and or helper T cell responses to the target antigen of interest. A preferred embodiment of such a composition comprises class I and class II epitopes in accordance with the invention. An alternative embodiment of such a composition comprises a class I and/or class II epitope in accordance with the invention, along with a ~~PADRE™~~ PADRE® (Epimmune, San Diego, CA) molecule (described, for example, in U.S. Patent Number 5,736,142).

Please amend the paragraph beginning on page 51, line 29 as follows:

In some embodiments, a bi-cistronic expression vector which allows production of both the minigene-encoded epitopes and a second protein (included to enhance or decrease immunogenicity) can be used. Examples of proteins or polypeptides that could

beneficially enhance the immune response if co-expressed include cytokines (e.g., IL-2, IL-12, GM-CSF), cytokine-inducing molecules (e.g., LeIF), costimulatory molecules, or for HTL responses, pan-DR binding proteins (e.g., ~~PADRE™~~ PADRE®, Epimmune, San Diego, CA). Helper (HTL) epitopes can be joined to intracellular targeting signals and expressed separately from expressed CTL epitopes; this allows direction of the HTL epitopes to a cell compartment different than that of the CTL epitopes. If required, this could facilitate more efficient entry of HTL epitopes into the HLA class II pathway, thereby improving HTL induction. In contrast to HTL or CTL induction, specifically decreasing the immune response by co-expression of immunosuppressive molecules (e.g. TGF-□) may be beneficial in certain diseases.

Please amend the paragraph beginning on page 56, line 21 as follows:

The DC can be pulsed ex vivo with a cocktail of peptides, some of which stimulate CTL response to one or more antigens of interest, e.g., prostate-associated antigens such as PSA, PSM, PAP, kallikrein, and the like. Optionally, a helper T cell peptide such as a ~~PADRE™~~ PADRE® family molecule, can be included to facilitate the CTL response.

Please amend the paragraph beginning on page 69, line 2 as follows:

The complete protein sequences of the prostate cancer-associated antigens PAP, PSA, PSM, and hK2 were obtained from ~~GenBank~~ GENBANK® and scanned, utilizing motif identification software, to identify 8-, 9-, 10-, and 11-mer sequences containing the HLA-A2-supermotif main anchor specificity.

Please amend the paragraph beginning on page 54, line 26 as follows:

Alternatively, it is possible to prepare synthetic peptides capable of stimulating T helper lymphocytes, in a loosely HLA-restricted fashion, using amino acid sequences not found in nature (*see, e.g.*, PCT publication WO 95/07707). These synthetic compounds called Pan-DR-binding epitopes (*e.g.*, ~~PADRE™~~ PADRE®, Epimmune, Inc., San Diego, CA) are designed to most preferrably bind most HLA-DR (human HLA class II) molecules. For instance, a pan-DR-binding epitope peptide having the formula: ~~aKXVAAWTLKAAa~~ XaaKXaaVAAWTLKAAXaa, where "Xaa" in position 3 is either cyclohexylalanine, phenylalanine, or tyrosine, and "Xaa" in position 1 or 13 is either D-alanine or L-alanine, has been found to bind to most HLA-DR alleles, and to stimulate the response of T helper lymphocytes from most individuals, regardless of their HLA type. An alternative of a pan-DR binding epitope comprises all "L" natural amino acids and can be provided in the form of nucleic acids that encode the epitope.